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REPRESENTATION OF THE DISTRIBUTION OF THE SNOW COVER ON THE SURFACE OF THE EARTH'S DRY LAND

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Translation of "Skhema rasprostranyemiya snezhnogo pokrova na poverkhnosti sushi zemnogo shara", IN: Geografia Snezhnogo Pokrova (Geography of Snow Cover), Academy of Sciences of the Soviet Union Press, Moscow, 1960, pp. 5-7

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16. Abstract

The authors discuss the distribution of the snow cover on the surface of the Earth's dry land, determining the general laws of this distribution and the factors influencing it.

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REPRESENTATION OF THE DISTRIBUTION OF THE SNOW COVER ON THE SURFACE OF THE EARTH'S DRY LAND

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The distribution of the snow cover on the surface of the earth's dry land has so far been studied quite inadequately, in spite of its widespread occurrence and great importance in nature. /5*

The distribution and conditions of occurrence of the snow cover has been studied most in those areas of the northern hemisphere, where it is highly stable, specifically in the USSR, Canada, USA and the northern countries of western Europe. In this connection the study has been poorer in the regions of central and southern Europe, in which the snow cover is less stable. In western, central and eastern Asia, there are also no data available on the snow cover, although in many mountain regions of these countries it covers the slopes or a long period, and permasnow occurs on the peaks. The distribution of the snow cover has hardly been studied in the southern hemisphere, where is it is not widespread.

The map scheme to which the readers' attention is drawn is the first attempt at mapmaking for a snow cover on the territory of the entire dry land of the earth. Extensive geographical literature and cartographic materials were surveyed to establish it. In cases when direct indications on the nature of occurrence of snow in any region were not available, we were forced to use certain indirect data (climatic conditions, nature of the flora and so on).

The inadequacy of the data on the conditions of the snow cover compel us to confine ourselves in this stage of the study to the characteristics of the duration of its occurrence, distinguishing on the surface of the earth's dry land the following four groups of territory.

*Numbers in margins indicate pagination in foreign text.

Territory constantly covered by snow and ice. For some mountain regions, where permasnow and glaciers occupy more areas which cannot be outlined precisely or even shown on the map of the scale chosen by us, we allowed a certain free enlargement of the areas. Thus for instance on the mountains of Kenya and Kilimanjaro in equatorial Africa, the permasnow occupies an area of about 240 km^2 which cannot be shown on our map, however the very fact of the occurrence of snows hear the equator is so interesting, that we considered it necessary to show this, by enlarging the territory occupied by it.

Territory with stable snow cover occurring annually and with different duration of occurrence. For the better studied regions of the globe the average duration of the occurrence is indicated by isolines, drawn every two months. Unfortunately, we did not have sufficient data on the duration of the occurrence of snow at different altitudes on mountains and the lower limits of their distribution. Special difficulties were found in the representation of the boundaries of distribution of snow in the mountains of central Asia and in the uplands of Tibet, where it occurs very systematically, but in such insignificant amounts, that it does not form a solid cover and evapoartes soon after it falls.

Territories where snow cover is formed almost every year, but has no stability both regard to the duration of its stay, and with regard to the time of formation. We include in these regions places where snow lies on the average less than two months and is unstable with regard to the time of appearance and disappearance.

Territories where there is no snow cover. These territories include places where temporary snowfalls are observed in individual years, but where snow melts soon after it falls.

In spite of the incompleteness of our map scheme, the above

mentioned absence of cartographic representation of the distribution of the snow cover over the entire surface of the earth's dry land gave us grounds for publishing it.

DISTRIBUTION OF THE SNOW COVER ON THE GLOBE

1) Territories constantly covered by snow and ice; 2) Territories with stable snow cover occurring annually with different duration of stay; 3) Territories with almost annual occurrence of snow cover, but without any stability; 4) Territories where there is no snow cover; 5) Duration of occurrence of the snow cover (months)